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REMARKS

Claims 46-51, 53-57 and 59-70 are all the claims presently pending in the application. Claims 46, 47, 59, 61 and 62 have been amended to more particularly define the claimed invention. Claims 66-70 have been added. Claim 58 has been canceled.

While the claim amendments made herein may help to distinguish the invention over the prior art, Applicant's intention in making the amendments is for the purpose of particularly pointing out the invention, and not for the purpose of distinguishing the invention over the prior art, narrowing the claims, or for any statutory requirements of patentability. Further, notwithstanding any claim amendments made herein, Applicant's intent is to encompass equivalents of all claim elements, even if amended herein or later during prosecution.

Claims 46-48 and 51-55, 59, 62 and 63 stand rejected under 35 U. S. C. §102(b) as allegedly being anticipated by Soules (U. S. Patent No. 6,252,254).

Claims 49-50 stand rejected under 35 U. S. C. §103(a) as allegedly unpatentable over Soules in view of Roberts et al. (U. S. Patent No. 6,335,548).

Claims 56-58, 61 and 64-65 stand rejected under 35 U. S. C. §103(a) as allegedly unpatentable over Soules in view of Chen (U. S. Patent No. 6,531,328).

These rejections are respectfully traversed in view of the following discussion.

I. EXEMPLARY ASPECTS OF THE CLAIMED INVENTION

An exemplary aspect of the claimed invention (e.g., as recited, for example, in claim 46) is directed to a light-emitting apparatus, including a semiconductor light-emitting element that emits light with a predetermined wavelength; and an external lens having a light convergence shape to converge light emitted from the semiconductor light-emitting element. The external lens including a recess to house the semiconductor light-emitting element, and a phosphor layer portion that has a substantially uniform thickness and is conformally formed on a surface of the recess, the phosphor layer portion including a phosphor to be excited by irradiating light emitted from the semiconductor light-emitting element. The recess is closely disposed surrounding the

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light-emitting element such that the light convergence shape converges light radiated from the phosphor layer portion into a spot of light, and a size of the phosphor layer portion and the semiconductor light-emitting element is small compared to a size of the external lens such that the phosphor layer portion and the semiconductor light-emitting element are identifiable as a point light source.

Importantly, a gap is formed between the phosphor layer portion and the semiconductor light-emitting element (Application at page 12, line 26-page 13, line 5; page 13, lines 24-29; Figure 6).

In a conventional apparatus (e.g., see Application at Figure 1B) there is often a misalignment between the element and the lens which may cause color unevenness.

In the claimed invention, on the other hand, a gap is formed between the phosphor layer portion and the semiconductor light-emitting element (Application at page 12, line 26-page 13, line 5; page 13, lines 24-29; Figure 6). The gap in the claimed invention may absorb this misalignment so that color unevenness may be prevented.

II. THE ALLEGED PRIOR ART REFERENCES

A. Soules

The Examiner alleges that Soules teaches the invention of claims 46-48 and 51-55, 59, 62 and 63. Applicant would submit, however, that there are features of the claimed invention that are not taught or suggested by Soules.

Moreover, Applicant would submit that Soules does not teach or suggest "*wherein a gap is formed between the phosphor layer portion and the semiconductor light-emitting element*", as recited in claim 46 and similarly recited in claims 61 and 62 (Application at page 12, line 26-page 13, line 5; page 13, lines 24-29; Figure 6). As noted above, the gap in the claimed invention may absorb this misalignment so that color unevenness may be prevented.

Clearly, Soules does not teach or suggest this novel feature.

Indeed, Applicant notes that in the claimed invention, the external lens can be manufactured separately from a mount of the element, so that the shape and thickness of lens and phosphor can be controlled with high precision (Application at page 13, lines

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17-23) and the shape of lens can be optioned according to intended usage and convergence characteristic (Application at page 15, lines 4-11). Additionally, if there is misalignment between the element and the lens, the gap may absorb this misalignment and color unevenness may be prevented. Thus, the positioning precision in assembling can be easily adjusted (Application at page 13, lines 24-29).

Soules fails to teach or suggest this "gap" of the claimed invention. For example, Soules discloses that a semiconductor light-emitting element is directly covered by a phosphor layer or scattering layer. In the light source of Soules, the color unevenness is observed when there is the misalignment. In Fig. 3 of Soules, the phosphor layer (34) is excited by scattered light from the scattering layer (38) and the phosphor layer (34) is not excited by irradiating light emitted from the emitting element as the claimed invention.

Thus, the light source of Soules cannot provide a light emitting apparatus with high precision, color evenness, etc. since there is no gap between the element and the phosphor or scattering layer.

Further, the Examiner attempts to rely on Figure 1 in Soules as teaching the recess of the claimed invention. This is completely unreasonable.

In fact, Applicant would remind the Examiner that a drawing can anticipate claims ONLY if the drawing CLEARLY shows the structure which is claimed. That is, the drawing MUST show ALL of the claimed structural features and how they are put together. Further, the drawings must be evaluated for what they reasonably disclose and suggest to one of ordinary skill in the art. Moreover, when the reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurement of the drawing features are of little value (MPEP 2125).

Nowhere does the text in Soules teach or suggest a gap formed between a phosphor layer portion and a semiconductor light-emitting element. Moreover, even assuming (arguendo) that Figure 1 discloses a phosphor layer, nowhere does Figure 1 show "all of the claimed structural features" of the claimed invention. That is, nowhere does Figure 1 teach or suggest a gap formed between a phosphor layer portion and a

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semiconductor light-emitting element. Thus, as stated in MPEP 2125, Figure 1 is "of little value".

Moreover, Soules simply teaches that the phosphor layer is coated directly on the LED and that the lens 16 is "molded over" an underlying layer (Soules at col. 3, lines 45-49). That is, Soules teaches a method of forming the light-emitting device 10 which likely prohibits the device 10 from including the features of the claimed invention (e.g., a gap formed between a phosphor layer portion and a semiconductor light-emitting element).

Therefore, Applicant would submit that there are features of the claimed invention that are not taught or suggested by Soules. Therefore, the Examiner is respectfully requested to withdraw this rejection.

B. Roberts and Chen

The Examiner alleges that Soules would have been combined with Roberts to form the claimed invention of claims 49-50, and with Chen to form the invention of claims 56-58 and 64-65. Applicant would submit, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every feature of the claimed invention.

In particular, Applicant respectfully submits that these references are unrelated. Indeed, no person of ordinary skill in the art would have considered combining these disparate references, absent impermissible hindsight.

In fact, Applicant submits that the references provide no motivation or suggestion to urge the combination as alleged by the Examiner. Indeed, these references clearly do not teach or suggest their combination. Therefore, Applicant respectfully submits that one of ordinary skill in the art would not have been so motivated to combine the references as alleged by the Examiner. Therefore, the Examiner has failed to make a prima facie case of obviousness.

Moreover, Applicant would submit that neither Soules, nor Roberts, nor Chen, nor any alleged combination thereof teaches or suggests "*wherein a gap is formed between the phosphor layer portion and the semiconductor light-emitting element*", as

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recited in claim 46 and similarly recited in claims 61 and 62 (Application at page 12, line 26-page 13, line 5; page 13, lines 24-29; Figure 6). As noted above, the gap in the claimed invention may absorb this misalignment so that color unevenness may be prevented.

Clearly, Roberts does not teach or suggest this novel feature.

Indeed, Roberts is simply directed to a semiconductor radiator emitter package, in which a radiation emitter 202 (e.g., LED chip) is mounted on lead frame 201 (Roberts at col. 26, lines 18-29).

Likewise, Chen does not teach or suggest these features of the claimed invention. Indeed, Chen simply teaches forming an LED in a groove 11 formed in a silicon substrate 8 (Chen at col. 4, lines 41-65) and forming the structure 23 over the groove 11. This is COMPLETELY unrelated to the claimed invention.

Thus, like Soules and Roberts, nowhere does Chen teach or suggest a gap formed between a phosphor layer portion and a semiconductor light-emitting element as in the claimed invention.

Therefore, neither Roberts nor Chen make up for the deficiencies of Soules.

Therefore, Applicant would submit that these references would not have been combined and even if combined, the combination would not teach or suggest each and every feature of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 46-51, 53-57 and 59-70, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

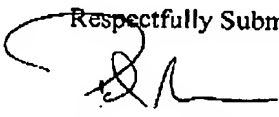
Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

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The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,


Date: 4/20/10


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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that the foregoing was filed by facsimile with the United States Patent and Trademark Office, Examiner Andrew Owens Arena, Group Art Unit # 2811 at fax number (571) 273-8300 this 20th day of April, 2010.


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